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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,802

09/21/2006

Hideaki Hara

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EXAMINER

MATHEWS, ALAN A

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,802	<b>Applicant(s)</b> HARA, HIDEAKI	
	<b>Examiner</b> ALAN A. MATHEWS	<b>Art Unit</b> 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/21/06 &amp; 10/18/06 &amp; 2/9/07</u> .                     | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Goup II in the reply filed on March 11, 2009, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 12- 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Streefkerk et al. (U. S. Patent Application Publication No. 2005/0007569, cited by Applicant in one of his IDSs). Streefkerk et al. '569 discloses in figure 8 and paragraphs # 0080 - # 0083 a nozzle member including a supply outlet labeled "IN" that supplies liquid and liquid supply system 310 (on the right of figure 8). The collection inlet

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includes a nozzle labeled "OUT" and includes the take-up system 310 (on the left of figure 8). Element 314 is an adjustment mechanism that adjust a positional relationship between a support member RF and the nozzle member. With respect to claim 13, paragraph # 0080 discloses that adjustment mechanism 314 are actuators 314 and can be piezoelectric, Lorentz motors, linear (electrical, magnetic or a combination) or other actuators. With respect to claim 14, paragraph # 0081 discloses a feedforward or feedback control system (as described above) which controls the actuators 314 to maintain the liquid supply and take-up system 310 at a predetermined height above the surface of the substrate. Paragraph # 0069 discloses the use of sensors to measure the distance between the bottom face of the seal 12 and the substrate W. Paragraph # 0083 also discloses the use of sensors. With respect to claims 15 and 16, paragraph # 0082 discloses that the actuators 314 can also be connected between the supply and take-up system 310 and the projection system PL (an optical system). With respect to claim 19, element "WT" is the substrate stage. Since the substrate W is on the substrate stage WT, actuators 314 which maintain the liquid supply and take-up system 310 a predetermined height above the surface of the substrate would also adjust a positional relationship between the substrate stage and the nozzle member. In addition, figure 9 and paragraph # 0092 - # 0093 disclose measuring the relative position of the substrate table WT to the metrology reference frame MF (i.e. measuring the distance 418) and between the liquid supply system 412 and the metrology reference frame MF (i.e. measuring the distance 416). A processor 420 processes this information and supplies it to various other controllers. The information contains at least information

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about the relative positions of the liquid supply system 412 (which includes the nozzles) and the substrate table WT. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

4. Claims 12-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Novak et al. (U. S. Patent Application Publication No. 2006/0023182 A1). It is first noted that Novak et al. '182 a continuation of PCT/US04/09994, which in turn claims the provisional applications 60/462,122 and 60/485,033. Novak et al. '182 discloses in figures 2B and 2C and paragraph # 0051 nozzles 258 with nozzle outlets 262. Paragraph # 0058 discloses adjusting a position of a containment frame 264 relative to the wafer 30 and the device stage 42. The frame support 268 can include a frame measurement system that monitors the position of the containment frame 264 along the Z axis. With this information, the support assemblies 274 can be used to adjust the position of the containment frame 264. With respect to claim 15 and 16, paragraph # 0056 discloses frame support 268 supporting the optical assembly 16.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

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the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

5. Claims 12-23 are rejected under 35 U.S.C. 102(b) as being anticipated by the German patent document DD 221 563 A1 (cited in one of Applicant's IDSs, along with an English translation). Figure 3 discloses elements 10 and 11 which can be considered inlets and outlets of a nozzle. Page 15, lines 25-27, and page 16, lines 1-3 disclose that the openings 10 and 11 can be applied selectively as supply-pieces or as exhaust-pieces. Page 15, lines 11-24, and page 16, lines 1-12, disclose measuring an interval between the surface of a photoresist 26 and the disk 3 and adjusting a distance between the two (which would be a drive apparatus). Sensor 22 measures this positional relationship. Figure 1 discloses the adjustability of the nozzle member relative to the substrate (and substrate table) and the projection system (optical member).

6. Claims 12-14 and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Carroll (U.S. Patent No. 7,369,217). Carroll discloses in figure 2B a nozzle member having inlet 230 and outlet 240. Column 4, lines 37-39 disclose that the distance from the final lens and the work piece (which would be on a substrate stage) is kept a constant level by an air gage and a servo control. This would be an adjustment mechanism.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents cited in the PTO-1449 are cited for the same reasons they were cited in Applicant's IDSs. The patent to Stevens is cited to show adjusting a nozzle member with nozzles 11.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN A. MATHEWS whose telephone number is (571)272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alan A. Mathews/  
Primary Examiner  
Art Unit 2851

AM